stomach for further information on the subject. Indeed most of the titles referred to under this head are of cases which accurately writing surgeons generally speak of as gastrostomies. On the other hand, however, it may with propriety be urged that whenever the belly is opened by incision a gastrotomy is done, whether the object be to form a mouth there, to remove a growth or foreign body, to remedy an obstruction, or repair an injury. We incline to the opinion that it would have been more precise to term all cases in which gastrotomy was done for the purpose of establishing a mouth, gastrostomies, even though many of those reporting them make use of the more general title.

Eleven pages are occupied with additions to the list of medical periodicals, and their abbreviations, employed in the Index-catalogue, thereby indicating undiminished care in the final preparation of the volume for the press.

Of the value of this catalogue we have repeatedly spoken in previous notices, as the successive volumes have appeared, and we can only emphasize those opinions now. To the scientific medical worker, the library of the Surgeon-general's office is simply of inestimable value, and to a proper use of it a catalogue is indispensable. By consulting the pages of the Index-catalogue in any neighboring public library the student can learn what this great repository at Washington contains suited to his need, and can either secure the loan of the required volumes, under a suitable guarantee, or can, like Carlyle, when he visited Germany to secure materials for his life of Frederick the Great, make a pilgrimage to the American Capital, and consult its treasures on the spot. In adopting this latter course, he will find every facility afforded him for a thorough examination of the books he wishes to consult, and it is to be hoped he may do so without the absurdly amusing discomforts which attended all the journeys of the Chelsean sage.

Now that the fever of political excitement is in some measure abated, it is to be hoped that Congress may be persuaded to give proper consideration to the claims of this great library, may resist the attempt to merge it in the Congressional library, may provide it with a suitable fire-proof building of its own, and may make such adequate appropriations as will permit of a speedy issue of the remaining volumes of the invaluable Index-catalogue. S. A.

ART. XXXII.—*Clinical Chemistry.* By CHARLES HENRY RALFE, M.A., M.D., Cantab., Fellow of the Royal College of Physicians, London, Assistant Physician at the London Hospital, etc. 16mo., pp. 308. Philadelphia: Henry C. Lea's Son & Co., 1884.

The Elements of Physiological and Pathological Chemistry. By T. CRANSTOWN CHARLES, M.D., Fellow of the Chemical Society and Royal Medical, Chirurgical, and Pathological Societies; Demonstrator of Physiology and Physiological Chemistry, St. Thomas's Hospital Medical School, etc. Large 8vo., pp. 463. Philadelphia: Henry C. Lea's Son & Co., 1884.

THE above two works are very similar in their general scope and character; and appearing, as they do, almost simultaneously, they may very naturally become the subjects of one common review.

No argument is needed to justify the important position now universally conceded to chemistry by the educated physician, especially in clinical teaching. To it and to the microscope are we particularly indebted for the rapid advances made within the last quarter of a century in histological, pathological, and therapeutical studies. The recognition of this fact is evinced in the very general prominence now given by our medical schools to laboratory chemical work, as an essential part of the student's education. There is certainly no lack of excellent treatises in this department of medical science, both domestic and foreign; but without depreciating others, we can aver, after a somewhat careful perusal of their contents, that the present volumes treat of the subjects described in a highly satisfactory manner.

1. The first admirable little work constitutes one of the series of manuals originally published by Cassells, of London, and which the Messrs. Lea, of this city, have so opportunely laid before the profession of our own country. It contains a succinct and graphic "account of the analysis of blood, urine, morbid products, etc., with an explanation of some of the chemical changes that occur in the body in disease."

The author is evidently master of his subject. His style is clear and unpretentious; his description of chemical processes and results perfectly intelligible to the advanced student; and his "explanations of the chemical changes that occur in the body in disease" are very suggestive to the practising physician.

Commencing with a succinct enumeration of the organic and inorganic constituents of the human body, the author proceeds to group and classify these principles under appropriate heads, such as Saccharine and Starchy Principles, Fatty Principles, Proteid Principles, Products of Metabolism, Non-nitrogenous, and Nitrogenous, and not omitting a brief mention of Ptomaines, or the alkaloids of putrefaction. The chapters on Blood and Urine are well up to our present knowledge in these departments. We notice, in passing, when treating of blood-stains, that an apparent (though doubtless unintentional) slight is put upon the *guaiacum-test* by the statement that "other substances besides blood give this (the bluing) reaction with guaiacum." This is true, but with the reservation that with blood it takes place *immediately*, whilst with other substances time is required. The description of the "Toxic Condition of the Blood" is lucid and instructive. The chapter on the urine is the fullest in the book, occupying seventy pages, but is not more copious than its importance justifies. The subject is treated in a very satisfactory manner, first chemically, and then in its pathological and clinical bearings. All the latest and best urinary tests are clearly described, so as to be easily followed by the advanced student. We notice one little lapsus in connection with the "detection of lead in urine," which is of some practical importance to the working chemist, in the direction to incinerate the extract containing the lead, "in a *platinum* or porcelain crucible;" there would be a risk (as the chemist knows) of seriously injuring the platinum by heating it with *lead*.

In the directions for "detecting mercury in the saliva," we think the author's method unnecessarily complex. We have always deemed it sufficiently satisfactory simply to employ Reinsch's test to the saliva *directly*. The mercurial deposit on the copper can readily be identified.

In the account of the *gastric juice*, the author's view is very decided as to hydrochloric acid being the true cause of its normal acidity. For years past, it has been a vexed question whether it w as due to this acid,or to lactic acid. We may regard the matter as now definitely settled. Richet has shown that in the fresh secretion, hydrochloric acid is the only one present. Lactic, acetic and butyric acids are met with "only as results of fermentive changes occurring in the stomach." In certain morbid conditions, these acids may be considerably in excess of hydrochloric acid. The author points out the practical importance of discriminating between the normal and the abnormal acids, in case of acid dyspepsia; and he gives Richet's method of distinguishing them in the vomited matters. Under this same head, some sound practical hints are given for the detection of poisons in the vomit, which any educated physician should be able to employ in an emergency, as trial tests.

In the section on *Bile*, along with a good account of the chemistry of this secretion, the author's clinical remarks on jaundice and diabetes are both valuable and suggestive.

Under the heading of the "Detection of Arsenic, Antimony, etc., in the Viscera," we are compelled to notice another chemical inadvertence on the part of the author, in the mode of employment of the excellent method of Reinsch. He recommends this process to be used on the acid mixture obtained by the previous employment of potassium chlorate on the original material; whereas (as the chemist well knows), in the latter case the liberated chlorine would indirectly prevent the arsenic or antimony from being deposited on the copper.

The last chapter treats of "Morbid Products," including urinary, biliary, and pancreatic calculi, intestinal, gouty, and other concretions, products of various degenerations, morbid exudations, and clinical remarks on scurvy, gout, and rheumatism, from a chemical standpoint. We take pleasure in recommending this manual both to the student and physician as as excellent *résumé* of clinical chemistry, and as a safe and practical guide in this most interesting department of medical study.

2. The treatise of Dr. Charles is a more elaborate production, and deals with the subject more from the physiological and pathological standpoint than from the purely clinical. The author discusses his subject under the four main heads of—I. Nutrition and Foods; II. Digestion and the Secretions concerned; III. The Chemistry of the Tissues, Organs, and remaining Secretions; IV. The Excreta, the Feces, and Urine. Under these several divisions ample scope is given for treating of various kinds of foods, nitrogenous and non-nitrogenous; describing the most approved methods of analyzing them, both qualitatively and quantitatively, with approximate reference to their physiological bearing. The chapter on "Digestion and the Secretions Concerned," are full of valuable matter, lucidly expressed and amply illustrated by appropriate experiments, most useful for the advanced student to follow in his laboratory researches. Under the head of "The Chemistry of the Tissues, etc.," the blood very naturally claims and receives a large and careful description in its chemical, physiological, and pathological relations. We have seen no better treasise on this subject since the issue of Lehman's well-known work, now becoming almost obsolete. Under this same heading, the author gives us an excellent description of muscle, nerve, milk, and the function of respiration, each subject containing the views of the latest and most approved authorities. Being himself a pupil of the distinguished Prof. Hoppe-

Seyler, he is enabled the more confidently to refer to the experiments and deductions of that celebrated teacher.

In the chapters devoted to the consideration of "The Excreta," the urine very properly receives a most thorough and careful consideration, which leaves nothing further to desire as a safe guide for the physiological and pathological student.

The last chapter contains a very useful syllabus, or guide, for the student's practical working out the various chemical and physiological processes previously discussed, which should certainly be welcomed by him as a real help in his laboratory investigations.

We entertain a high opinion of Dr. Charles's treatise, and regard it as a most useful work, not only for students of physiological chemistry, but also as being suggestive for teachers of this science. It is illustrated with a number of good engravings, and with an excellent chromo-lithograph of the blood-spectra. J. J. R.

ART. XXXIII.—*The Elements of Pathology.* By EDWARD RINDFLEISCH, M.D., Professor of Pathological Anatomy in the University of Würzburg. *Translated from the First German Edition*, by WM. H. MERCUR, M.D. (University of Pennsylvania). Revised by JAMES TYSON, M.D., Professor of General Pathology and Morbid Anatomy in the University of Pennsylvania, etc. etc. 12mo. pp. 263. Philadelphia: P. Blakiston, Son & Co., 1884.

THE rare good judgment of the translator and reviser of this excellent work has resulted in putting into the hands of American medical students a book which has long been needed, and in a form which adds the charm of graceful diction to the substantial value of comprehensive accuracy. Indeed, when we compare this admirable translation with the rugged and obscure sentences disfiguring Professor Rindfleisch's great Text-book of Pathological Histology, when it first appeared in English dress in the original edition of 1872, we feel both that Professor Tyson and Dr. Mercur deserve the highest praise for overcoming the well-known difficulties of their task, and that the intrinsic worth of the labors of Dr. Rindfleisch must be truly great, to enable his reputation to survive the malrepresentation with which it came before the medical profession of the United States. In our opinion the modest claim made by the reviser in his generous preface that most of the well-recognized difficulties of translation have been surmounted, is most amply sustained, and his assurance that he has read every line of proof, and carefully compared all doubtful passages with the original, explains, perhaps, the exceptional clearness of the language employed, and certainly confirms our confidence in the correctness with which it conveys the genuine meaning of the Würzburg professor.

The general plan of the volume is that of considering, first, the phenomena of the local outbreak of disease under which are discussed inflammation in all its varieties, and the formation of tumors; next, the anatomical extension of disease, comprising the deuteropathic groups of symptoms, metastasis, fever, and irritation of the nervous system; then the physiological extension of disease, including the vegetative and animal disturbances, is explained at considerable length; and, lastly, a special